Popular scientific project description for project funded by Ekhagastiftelsen

Popular scientific project description is to be submitted within 2 months of project grant.

Application number:	2025-059
Project title:	Alley cropping with pome fruit for the Pacific Northwest
Receiver of grant (name, address):	Institute for Sustainable Food Systems – Kwantlen Polytechnic University 12666 72 Avenue, Surrey, BC, V3W2M8, Canada
Contact / project manager:	Maayan Kreitzman
Project start (yyyy-mm-dd): *	2026-01-01
Project end (yyyy-mm-dd): *	2028-12-31
By Ekhagastiftelsen granted sum:	1 350 000SEK

Project description: (200 - 300 words)

Pome fruits (apple and pear) are high-nutrient foods present in most Canadian's diets. British Columbia produces significant amounts of apple and pear, (both organic and conventional) but the industry has been in decline in recent decades, as BC fruit growers have experienced extreme weather events and struggle to compete with larger scale US production. This project studies the management and economics of alley cropping in apple and pear orchards with the specific aims of 1) demonstrating expected increased yields, nutritional diversity, and economic potential of orchards by establishing a pome fruit alley crop demonstration site; and 2) understanding scenarios for transition at the farm and regional scale using simple economic projections and geographic analyses.

We propose to develop a demonstration site on an existing 1.5 acre, ten-year-old pear orchard in Richmond, BC under (non-certified) organic management by adding a rotation of vegetable and pulse crops to the alleys between the tree rows. We will evaluate the management and inputs required, and resulting yields and soil properties. We propose to use these results combined with updated enterprise budgets to generate economic projections for viability of intercropping at the farm scale, and implement larger-scale spatial analysis to generate economic and food production estimates for transition scenarios across the province.

As climate impacts increase it is important to make efficient use of land already in production and improve both yields and nutritional diversity. Diversification of revenue streams can improve farmer livelihoods and mitigate risk, but practical ways of doing so are needed in the fruit tree sector to enable farmer adoption. Demonstrating innovative agroforestry practices that are good for food system resilience and the environment provides an alternative to conventional production that incurs high health and environmental costs.

* Dates for project start and end should be the dates for which the grant is received (Not dates for total project if longer than period for which grant is received)